

## CLAIMS

1. A diagnostic apparatus, comprising:

validity determining means for determining whether a measurement value obtained by time-sequentially measuring a measurement object is valid;

reference generating means for generating a diagnosis reference used for diagnosing the measurement object by using a measurement value determined to be valid each time the measurement value is determined to be valid; and

diagnosing means for diagnosing the measurement object based on the generated diagnosis reference.

2. The diagnostic apparatus according to claim 1, further comprising state determining means for determining a state of the measurement object by using the measurement value determined to be valid, the measurement object changing among a plurality of states,

wherein the reference generating means generates the diagnosis reference according to the state of the measurement object.

3. The diagnostic apparatus according to claim 1, further comprising state determining means for determining a state of the measurement object by using the measurement value determined to be valid, the measurement object changing among a plurality of states,

wherein the diagnosing means diagnoses the measurement object

according to the state of the measurement object.

4. The diagnostic apparatus according to claim 1,  
wherein the validity determining means determines a measurement value obtained at timing other than predetermined timing, a measurement value inevitably containing an error when the measurement object is measured, and a measurement value taking a value outside a preset range, or a measurement value other than a combination of any one or more of the measurement values to be valid.

5. The diagnostic apparatus according to claim 1,  
wherein the reference generating means generates the diagnosis reference by statistically processing the measurement values of the kinds.

6. The diagnostic apparatus according to claim 1,  
wherein the diagnosing means determines the measurement object to be normal when the measurement value is within a predetermined range from a center value of the measurement values obtained by the statistic processing.

7. The diagnostic apparatus according to claim 6,  
wherein the diagnosing means determines the measurement object

to be normal when the measurement value takes a value outside the predetermined range from the center value of the measurement values by a predetermined number of times or more and by a predetermined frequency or more, or in a case other than one of these cases.

8. A transport machine, comprising:

transport means including a component to be a measurement object;

validity determining means for determining whether a measurement value obtained by time-sequentially measuring a measurement object is valid;

reference generating means for generating a diagnosis reference used for diagnosing the measurement object by using a measurement value determined to be valid each time the measurement value is determined to be valid; and

diagnosing means for diagnosing the measurement object based on the generated diagnosis reference.

9. A diagnostic method, comprising:

determining whether a measurement value obtained by time-sequentially measuring a measurement object is valid;

generating a diagnosis reference used for diagnosing the measurement object by using a measurement value determined to be valid each time the measurement value is determined to be valid;

and

diagnosing the measurement object based on the generated diagnosis reference.

10. A program for causing a computer to execute:

a validity determining step of determining whether a measurement value obtained by time-sequentially measuring a measurement object is valid;

a reference generating step of generating a diagnosis reference used for diagnosing the measurement object by using a measurement value determined to be valid each time the measurement value is determined to be valid; and

a diagnosing step of diagnosing the measurement object based on the generated diagnosis reference.

11. The program according to claim 10, for causing a computer to execute a state determining step of determining a state of the measurement object by using the measurement value determined to be valid, the measurement object changing among a plurality of states,

wherein the reference generating step includes generating the diagnosis reference according to the state of the measurement object.

12. The program according to claim 10, for causing a computer to execute a state determining step of determining a state of the

measurement object by using the measurement value determined to be valid, the measurement object changing among a plurality of states, wherein the diagnosing step includes diagnosing the measurement object according to the state of the measurement object.

13. The program according to claim 10, wherein the validity determining step includes determining a measurement value obtained at timing other than predetermined timing, a measurement value inevitably containing an error when the measurement object is measured, and a measurement value taking a value outside a preset range, or a measurement value other than a combination of any one or more of the measurement values to be valid.

14. The program according to claim 10, wherein the reference generating step includes generating the diagnosis reference by statistically processing the measurement values of the kinds.

15. The program according to claim 10, wherein the diagnosing step includes determining the measurement object to be normal when the measurement value is within a predetermined range from a center value of the measurement values obtained by the statistic processing.

16. The program according to claim 15,

wherein the diagnosing step includes determining the measurement object to be normal when the measurement value takes a value outside the predetermined range from the center value of the measurement values by a predetermined number of times or more and by a predetermined frequency or more, or in a case other than one of these cases.